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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,778	04/20/2001	Anton Blaakmeer	702-010062	7921
28289	7590	09/21/2004	EXAMINER	
WEBB ZIESENHEIM LOGSDON ORKIN & HANSON, P.C.				NGUYEN, SON T
700 KOPPERS BUILDING				ART UNIT
436 SEVENTH AVENUE				PAPER NUMBER
PITTSBURGH, PA 15219				3643

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/762,778	BLAAKMEER ET AL.
Examiner	Art Unit	
Son T. Nguyen	3643	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 August 2004.
- 2a) This action is FINAL.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 12-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 12-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Claim Objections***

1. **Claim 15** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of "wherein the ion-exchange agent has a non-clay like behavior with respect to swelling and shrinking" in claim 15 does not further limit claim 12, for in claim 12, this limitation has been claimed.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 12,13-16,19-22,25,26** are rejected under 35 U.S.C. 103(a) as being unpatentable over 1336426 (herein 426) in view of WO 91/08662 (herein 662).

For claims 12 & 15, 662 discloses a mineral wool plant substrate comprising a coherent matrix of mineral wool (page 1, line 9), a cured binder (page 2, lines 71-72 and page 3, lines 5-10)), wherein the coherent matrix is formed by collecting a layer of mineral wool fibers that is cured by the binder (page 2, lines 71-72, page 3, lines 5-10 and 52-55), said cured binder fixing the fibers to one another so that they are substantially not displaceable relative to one another (page 2, lines 117-125). However,

426 is silent about a quantity of an ion-exchange agent comprising an ion-exchange capacity of at least about 15 meq/100g dry weight, wherein the ion- exchange agent is present in a maximum amount of 20 volume % and has a stable structure, exhibiting a non-clay like behavior with respect to swelling and shrinking.

662 discloses a mineral wool plant substrate comprising a quantity of an ion-exchange agent (page 4, lines 10-22) and a quantity of an ion-exchange agent (page 4, lines 10-22) having a stable structure, exhibiting a non-clay like behavior with respect to swelling and shrinking. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ ion-exchange agent as taught by 662 in the substrate of 426 because the agent has a good ability to adsorb nutrients (page 4, lines 13-15 of 662).

426 as modified by 662 is silent about various capacities or amount of ion-exchange agent used. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use ion-exchange agent with at least about 15 meq/100g dry weight wherein the ion- exchange agent is present in a maximum amount of 20 volume % in the substrate of 426 as modified by 662, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges until the desired effect is achieved involves only routine skill in the art.

For claims 13 & 14, in addition to the above, 662 teaches lignite (page 4) which is a soil mineral and is a cation-exchange agent (as defined by Applicant's specification, page 3, line 10). It would have been obvious to one having ordinary skill in the art at the

time the invention was made to employ lignite as taught by 662 in the substrate of 426 as modified by 662 because lignite has a good ability to adsorb nutrients (page 4, lines 13-15 of 662).

For claim 16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ion-exchange agent has an average pore size of less than 25 gm in the substrate of 426 as modified by 662, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges until the desired effect is achieved involves only routine skill in the art.

For claim 19, in addition to the above, 662 teaches clay (page 4, line 25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ clay as further taught by 662 in the substrate of 426 as modified by 662 because clay increase water retention and rewetting ability (page 4, lines 27-28 of 662).

For claim 20, 426 as modified by 662 discloses the substrate being used as growing block (page 1, lines 45-56 of 426 and page 5 lines 9-11 of 662).

For claim 21, 426 as modified by 662 discloses the substrate being a growing mat (page 1, lines 58-85 of 426 and page 4, lines 9-11 of 662).

For claim 22, see claims 12,14,19 for explanations.

For claims 25 & 26, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an ion-exchange capacity of about 30 meq/100g or 40 meq/100g dry weight in the substrate of 426 as modified by 662, since it has been held that where routine testing and general experimental conditions are

present, discovering the optimum or workable ranges until the desired effect is achieved involves only routine skill in the art.

4. **Claims 17 & 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over 426 as modified by 662 as applied to claims 12,15 above, and further in view of 5081791 (herein 791).

For claim 17, 791 discloses a plant substrate comprising mineral wool (col. 3, line 9) and zeolite (col. 3, line 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ zeolite as taught by 791 in the substrate of 426 as modified by 662 in order to improve capillarity (col. 3, line 5 of 791).

For claim 24, since 791 discloses zeolite (col. 3, line 7), it should display a stable cage-like structure because it is the same zeolite claimed by Applicants.

5. **Claims 18,23** are rejected under 35 U.S.C. 103(a) as being unpatentable over 426 as modified by 662 as applied to claim 12 above, and further in view of 5368626 (herein 626. 426 as modified by 662 is silent about peat. 626 teaches a growth medium or substrate in which he employs peat together with mineral wool in the medium to provide a higher water retention medium (col. 1, lines 62-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ peat as taught by 626 in the substrate of 426 as modified by 662 in order to increase water retention in the substrate.

***Response to Arguments***

6. Applicant's arguments with respect to claims 12-26 have been considered but are moot in view of the new ground(s) of rejection. Also, the declaration of Anton Blaakmeer has been acknowledged but moot in view of the new ground of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is (703) 305-0765. The examiner can normally be reached on Monday - Friday from 9:00 a.m. to 5:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon, can be reached at (703) 308-2574. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (703) 872-9325. The official fax number is 703-872-9306.



Son T. Nguyen  
Primary Examiner, GAU 3643  
September 19, 2004